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MS # P-041 p

REPRESENTATION OF ARMORED INTERESTS

1938 - 1945

(OKH Project # 7)

By

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SUBJECT: Reviewer's Comments.

TO: Chief, Foreign Military Studies Branch.

1. The undersigned reviewed manuscript number P-041 p during the period 12-13 August 1952. The study, entitled "Representation of Armored Interests, 1938-1945", was written by Generaloberst Heinz Guderian as a portion of OKH Project No. 7. The place and time of authorship are unknown, but it is estimated to have been written at least four years ago.

2. The document consists of 45 pages in its translated form, plus a three-page appendix and one typewritten chart. The text is divided into five sections, of which Section IV is the heart of the document.

3. The study concerns itself with describing the representation of Panzer interests in the top echelons of the German Army during the period immediately prior to and during World War II, with particular emphasis and detail directed toward the office of Inspector General of Panzer Troops, which was occupied by the author during its most important period.

4. It is not considered that this study is of any particular interest to any agency of the European Command because of the high-level organization with which it is concerned. Both for its own merits and in conjunction with its companion pieces of this major project, the document will undoubtedly prove of great value to appropriate high level agencies of the United States Army.

5. It is not recommended that this study be reproduced for use in the European Command.

NORMAN T. WALKER,
Capt, Ord C,
Reviewer

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The Author

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Generaloberst
Date of birth: 17 June 1888
Place of birth: Kulm on the Vistula
(now Polish territory)

At the age of thirteen GUDERIAN joined the Cadet Corps in Karlsruhe in Baden, one of the southern States of Germany. Two years later, in 1903, he was transferred to the Chief Cadet Center at Berlin-Lichterfelde, from which he graduated in 1907, in which year he joined the X Jaeger Battalion as an officer candidate. In January 1908, after a year at the Metz Officer Training School, he received his commission as second lieutenant with rank dated June 1906. After further service in field units he attended the Berlin War Academy in 1913-14.

Throughout World War I GUDERIAN served in various posts, rotating between field units and General Staff appointments and in 1918 was awarded General Staff Corps status. During the inter-war period he served as company commander, technical staff officer in the Reichswehr (Defense) Ministry, as general staff officer in divisional staffs and in the Transportation Staff of the Reichswehr Ministry, commander of a motor transport battalion, chief of staff in the Motor Transport Inspectorate, chief of staff of the Panzer Forces Command (Kommando der Panzertruppe), Commanding General, 2d Panzer Division, Commanding General XVI Infantry Corps and finally as Chief of Mobile Forces.

Promoted colonel in 1933, Generalmajor in 1936, Generalleutnant in February and General der Panzer in November 1938, General GUDERIAN was placed in command of the XIX Panzer Corps when World War II broke out on 1 September 1939. It was while in command of this panzer corps that the general carried out the operations in Poland that brought him fame and made him the most popular panzer commander in Germany.

At the end of the Polish campaign General GUDERIAN was transferred to the West front with his corps and in

June 1940 was placed in command of Panzergruppe * Guderian, with which he took part in the French campaign. It was during this assignment, in July 1940, that GUDERIAN was promoted Generaloberst. In June 1941 he was transferred with his panzergruppe to the east front and in October of the same year the panzergruppe was reorganized into an army, the Second Panzer Army.

In December 1941 the General was relieved of his command and placed in the Army High Command General Officer Reserve. His next assignment, in February 1943, was as Inspector General of Panzer Forces on all fronts, which assignment he held until the cessation of hostilities. In addition to this post, General GUDERIAN served as Acting Chief of Army General Staff from July 1944 to March 1945. He was finally captured near Zell am See, Tyrol, on 10 May 1945.

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* A panzer army without rear zone administrative echelon.

I. DEVELOPMENT OF PANZER TROOPS UP TO 1938

The Treaty of Versailles did not allow the Germans to have tanks, and the embryo of the German panzers born in World War I was destroyed. The last panzer officers of the 100,000 man Army were absorbed into the Motor Transport Service, which carried on the modest tradition of the Armored and Air Forces, and assimilated great numbers of their personnel into its ranks.

The good relations existing with Russia during the twenties permitted the erection in that country of a test station for weapons prohibited to the Germans by the Versailles Treaty. Several tanks were ordered by the Inspector of the Motor Transport Service in cooperation with the Army Ordnance Office, and these were tested in the interior of Russia. The construction of these tanks was not based on tactical or operational plans as to future employment, but only on the scant basis of the meager experience with German panzers in World War I and a few German tanks built and sold to Sweden in 1918. Consequently these models had many deficiencies, in particular the control of tanks by the still imperfect wireless remote control. In spite of the slow progress in the technical development of tanks under these conditions, the plan nevertheless stimulated an exchange of thoughts on the future employment of armor.

The Inspectorate of the Motor Transport Service, although at first mainly in charge of technical development, soon found itself interested in the tactical and operational problems involved in the use of tanks. The study of foreign military literature and the evaluation of the

experiences of World War I were supplemented by reports on field maneuvers of motorized and armored formations in England and France, they having the most advanced modern tanks, and also by Russian and American experiments in the field.

The organization of the Inspectorate of the Motor Transport Service corresponded to those of other branches, except that it was considerably smaller and initially had no school of its own. A motor transport training staff was not established in Germany until the tests began in Russia, and this was a small school originally intended for training officers, civilian employees, and noncommissioned officers in automotive mechanics. But from 1928 on the curriculum included tactics, the combat employment of tanks, their cooperation with other arms, and their defense.

The Inspector of the Motor Transport Service arranged a series of test and instruction exercises to include troops of all arms. Panzers were represented in these exercises by canvas dummies, and later by motorized sheet-iron dummies, and the mobility of these vehicles in the open terrain was just as miserable as the practices of maneuvering them by means of flags. They could only be driven on the favorable ground of the training camps, and the ridiculous impression which they made on the troops of the other arms not only reduced respect for this modern weapon, but even impaired the realization of the necessity for an efficient defense against them. But in spite of such shortcomings, the idea gained ground that it was essential to have a Panzer Command, and those engaged in the tests obtained a clear knowledge of its

possible future employment and organization. The tests eventually resulted in demands for the development of the weapon.

In 1930 the first panzer, antitank, reconnaissance, and motorcycle companies came into existence within the Motor Transport Service, though still equipped with dummies. Three horse drawn transport companies were transferred to the Motor Transport Service, which already numbered 21 companies, as cadres for the new units. Numerous technical tests were made, especially as to cross country mobility and radio communication, and in 1931 the first units of the Motor Transport Service appeared at the maneuvers as combat troops. At the 1932 cavalry maneuvers in Silesia and the subsequent maneuvers at Frankfurt/Oder, stronger motorized reconnaissance units appeared, using provisionally armored reconnaissance cars for the first time.

By 1934 the development of the organization had been accelerated and a number of motorized combat units were in the course of formation. This development aimed at providing armored combined-arms units, of which panzers were to be the core, while the cooperating Infantry, Artillery, Engineers, signal forces, reconnaissance units, and antitank defense battalions were to be permanently attached and fully motorized.

The decision to establish panzer divisions arose in the office of the Chief of the Branch itself, and the Inspector of the Motor Transport Service, Generalleutnant Lutz, carried it out against considerable opposition. In the summer of 1934 a Panzer Command was formed from parts of the Inspectorate of the Motor Transport Service, and the

Inspector took over this command in addition to his former duties. In the summer of 1935 the Panzer Command arranged the first large armored division maneuvers with makeshift units. The maneuvers, lasting four weeks, proved the feasibility of the arm, and led to the formation of the first three panzer divisions in autumn 1935.

The command of these three divisions was assumed by the Panzer Command with the former Inspector as Commanding General. In addition, an Inspectorate of Panzer Troops was established as a technical office in the General Army Office at the Army High Command. The Inspector represented the interests of the panzer divisions and of the antitank defense battalions of the infantry divisions. The Armored Command School and the instruction unit at Muensterdorf, successors of the old motor transport training staff, were placed under his jurisdiction along with the artillery school at Putlos in Holstein.

The new panzer divisions included panzer regiments, panzer reconnaissance battalions, antitank battalions, rifle regiments, and motorcycle battalions made up of panzer troops. Through cooperation with the appropriate inspectors, other arms contributed panzer artillery regiments, panzer engineer companies (later battalions), and panzer signal communication battalions.

The panzer troops were primarily drawn from the cadres of the Motor Transport Service, but since its 24 weak companies were not sufficient for the purpose, four cavalry regiments, a number of individual cavalry troops, and an infantry battalion were transferred to the Panzer Command. A large number of officers and officer candidates of the Cavalry and

the Infantry were taken over in order to assure the proper utilization of the new weapon, and out of these widely representative groups, a weapon was forged during the following years whose esprit de corps was not surpassed by any other arm and which faithfully performed its duty to the bitter end. The top-level command of the Army, which at first was not convinced of the soundness of panzer divisions and corps, was forced to change its mind during the following years.

In addition to the panzer divisions, a panzer brigade consisting of two panzer regiments was created for cooperation with the Infantry, and later a few independent panzer battalions were organized for the same purpose. A number of "light divisions" were organized as fully motorized forces containing one panzer battalion each on the principle of providing especially fast motorized forces. For this purpose the tanks were transported on motor truck trailers in order to be able to tow them at the same speed as the rubber-tired vehicles*. Finally, a number of infantry divisions were motorized, but were not equipped with tanks. The panzer brigades were assigned to the Inspector of Panzer Troops, the light divisions were under the Inspector of Cavalry and the motorized infantry divisions were under the Inspector of Infantry. Thus the uniformity of motorization in the arms, which had previously existed, was lost.

Three corps staffs were formed: XIV for the motorized infantry divisions, XV for the light divisions, and XVI for the panzer divisions.

* This practice also saves wear and tear on the tanks themselves. (Editor.)

These three corps were assigned to Army Group Headquarters 4 at Leipzig, which had the mission of studying the operational employment of motorized formations.

II. THE CHIEF OF MOBILE TROOPS (1 November 1938 - 31 August 1939)

Hitler became very interested in tanks after his appointment as Reich Chancellor, and several times actively encouraged their development. In autumn 1938 he intervened in the development of mobile forces by causing the Commander-in-Chief of the Army to set up a joint command for the Panzer Forces and the Cavalry in order to remove the injurious rivalry which had been built up, and to restore the disturbed continuity of development. The result was the creation of a "Chief of Mobile Troops" on 1 November 1938, whose authority approximately matched that of other arms inspectors. Thus he was unable to surmount the opposition of numerous parties, including the Commander-in-Chief of the Army himself, the Chief of the General Staff and his assistants, and the Chief of the General Army Office. His influence being limited, the agency ceased to exist at the beginning of the war on 1 September 1939.

III. ORGANIZATION OF THE PANZER COMMAND IN WARTIME

(1 September 1939 - March 1943)

The top-level organization of the Panzer Command during the period 1939 - 1943 resembled that of the other arms. The Commander-in-Chief of the Army had transferred the representation of the individual arms to the Commander of the Replacement Army, and the influence of the Inspectors was thus exerted on the Replacement Army only.

After the Polish campaign the inadequacy of this organization became evident, and a Chief of each arm or service, including the Panzer Command, was attached to the Commander-in-Chief of the Army. As far as the panzers were concerned, the selection of these personalities and their authority was not always in concert with the importance which the Panzer Command enjoys in a modern war, and their accomplishments did not meet the requirements of combat. Still, some fundamental faults of the organization which existed just before the war were discovered and eliminated: all panzer forces were incorporated into panzer divisions, the light divisions were changed into panzer divisions, and the motorized infantry divisions were reduced from three to two regiments which made them more flexible.

Experience in the Polish campaign indicated that the panzer divisions had stood their test excellently, even in difficult panzer country. The mass commitment of fast-moving motorized forces, the immediate exploitation of initial successes with the object of making deep penetrations or break-through, the continuance of movement at

night, and the energetic pursuit of shattered formations brought success in battle. The strategic envelopment and outflanking of the enemy finally decided the campaign.

The equipment stood up well against Polish tanks. It generally consisted of Panzers I (two machine guns) and II (20-mm gun and a machine gun), plus a few Panzers III (37-mm gun and two machine guns) and IV (75-mm gun and two machine guns). The control of panzer divisions and corps by radio was proved to be feasible, and the principles of armored combat, conceived in peace, were confirmed before the enemy. The field forces generally expressed a desire for increased fire power and stronger armament, but the speed was considered sufficient.

The German Panzer Command entered the Western Campaign in 1940 with ten panzer divisions and a number of motorized infantry divisions, plus smaller forces such as the 11th Rifle Brigade, the "Grossdeutschland" Infantry Regiment and the "Adolf Hitler" SS Body-guard Regiment. The German panzer commanders saw clearly that a much harder fight awaited them in the west than in Poland, since the combined armor of the French and British could bring about 4500 tanks into action while the authorized strength of the German Panzer Command was 2800 and the actual strength on 10 May 1940 was about 2200 panzers. The monthly German output of new tanks was 125 at the time, so the Germans faced a superiority of two to one, which was increased even further by the stronger armaments and the larger gun calibers of the individual French and English tanks. However, the last-mentioned disadvantage was partially compensated in the spring of 1940 by rearming the panzer regiments with

with Panzers III and IV in place of the I and II.

It was important to neutralize the numerical inferiority by a concentration of the available panzer forces in the decisive area under a uniform, experienced command. Local superiority could be achieved and success exploited through large panzer units in fast mobile warfare, and the greater speed and superior control and signal communications of the German panzers would be of great importance in this respect. If the mass assault of the German panzers could be combined with a well planned attack of the Luftwaffe, a large-scale success was possible. But the top level representation of the Panzer Troops with the Army Commander-in-Chief cannot be credited with much share in translating this theory into reality.

The prequisites necessary for the great victory in the West was squeezed from the Commander-in-Chief of the Army with great difficulty. He first thought victory could only be gained by re-enacting the Schlieffen Plan of 1914. But Hitler altered the traditional course after receiving a memorandum written by General von Nanstein and signed by Generaloberst von Rundstedt concerning the shifting of the main point of attack through Luxemburg and South Belgium to and beyond Sedan. The emergency landing on Belgian territory of a Luftwaffe courier airplane carrying important documents bearing on the original plan may have been decisive for the change.

At any rate, as early as winter 1939 - 1940 the problems of a breakthrough at Sedan was discussed from the standpoint of the Panzer Command. The original intention of the Army High Command to accomplish this

break-through with two to three panzer divisions was considered faulty by the Panzer Command, and the commitment of the entire German panzer forces at the decisive point was urged. After theoretical studies by means of war games, the Army High Command finally decided to form an armored group echeloned in three corps, which was to advance under the command of General von Kleist through Luxemburg to Sedan. Eight and a half motorized divisions were assembled for the decisive blow and co-operation with the Luftwaffe across the Meuse was secured for the first day of attack. The success of the campaign is well known, and proved again the soundness of the thinking of the creators of the German Panzer Command.

Impressed by the sweeping success of the German tanks, in summer 1940, Hitler demanded an increase in German tank production capacity to 800-1200 panzers monthly. However, the calculations of the Army Ordnance Office indicated a total cost of two billion marks and a personnel requirement of 100,000 expert workmen for this project and Hitler unfortunately dropped the plan.

The Western Campaign did not lead to peace. Hitler did not decide to terminate the war in the West, but believed he could put off a decision until he had secured sufficient protection in his rear. This conviction that an armed conflict with Russia was inevitable, which grew rapidly after the Berlin conference with Molotov in November 1940, influenced him to make the disastrous decision to wage a preventive war against this giant country before the opponents in the West had been finally forced to make peace.

Hitler wanted the war against Russia to be waged with utmost energy and swiftness, and in autumn 1940 ordered the number of panzer and motorized infantry divisions to be doubled. As the German tank production was insufficient to fulfill this program without a thorough reorganization, the panzer divisions were only composed of one panzer regiment with two and in some cases three battalions, and the authorized tank strength of the individual companies was also reduced. In May 1941 eleven armored divisions were organized with two battalions and nine with three battalions. The 5th Light Division in Africa had two battalions, and the motorized infantry divisions remained without tanks.

It is evident that the fighting power of the individual panzer divisions was weakened by this fifty percent reduction in tanks, even though the Panzer I and II were almost entirely replaced by the commencement of operations with the Panzer III and IV and the Czech 38-T. The total number of panzers at the beginning of the Russian campaign was about 3200, while according to reliable information the number of Russian tanks in 1937 was seventeen thousand, and this figure was certain to have been considerably increased in the meantime. Germany, therefore, faced forces many times superior in number, even though the bulk of the Russian tanks in summer 1941 consisted of obsolete material such as the Christie Ruskij, which had very weak armor.

In July 1941, however, two entirely new Russian types made their appearance - the renowned T 34 with a 76.2-mm gun, and the KW I with a 150-mm gun. The T 34 proved to be far superior to the German Panzer IV in fire power, armor, the chain, and the motor, and since it appeared

in ever increasing numbers after the autumn of 1941, the German panzer forces and antitank defenses had a hard time. An improvement of the German panzer and antitank weapons was urgently required, but until new models could be produced the production of the other tanks had to be increased and some long-demanded countermeasures had to be carried out.

In October the Commander of the Second Panzer Army asked for a commission of representatives from the panzer agencies in the Zone of the Interior and the panzer production industry to be sent to his sector in order to explain in the combat zone itself the difference between the German and enemy tank types, and to illustrate to them the effective power of their arms. As a result of this meeting an order was issued for the construction of two new heavy panzer, the Panther (Type V) and the Tiger (Type VI), and the old Panzer IV received stronger armor at the front and a longer gun. The new gun for the IV was the L 40, and later the L 48, which replaced the original L 24. But considerable time elapsed before the new models appeared at the front.

The Tiger, constructed by the firm of Henschel at Kassel, could be produced immediately, which was a rare occurrence, and the first battalion of Tigers arrived at the front near Leningrad in January 1943. Unfortunately this unfavorable forest and swamp area robbed them of their effectiveness, and having been assigned an unfortunate defensive mission, they were unable to prove their value against the Russian KW 1. Panther construction was more difficult, and involved many technical problems. Therefore, the first hundred of this model did not appear at the front until June 1943, and at the same time another Tiger model

called the Ferdinand * received its baptism of fire. The Ferdinand had an electric drive and was armed with a long 88-mm gun, but being without machine guns, it was unsuitable for close combat in the enemy infantry fighting zone.

Until summer 1943, a period of one and a half years, the German Panzer Command had to fight with inferior equipment against the Russian tanks, which were stronger and more numerous, and which were aided by ample deliveries of American tanks.

The development of the German Panzer Command not only suffered during 1942 from a lack of imagination in the panzer troops themselves, and from its often changing technical command, but also from the inconstancy of Adolf Hitler in gauging the chances of success of this weapon. In January 1942, under the impression of the effectiveness of the hollow charge shell, Hitler arrived at the conclusion that the time of the panzer had passed, and wanted to convert the tank industry to increased production of self-propelled mounts for the heavy artillery. Then doubts arose in his mind whether this point of view was right, which led to an order for the construction by Professor Porsche and the Krupp company of 100-ton** tanks, and for a strengthening of the armor of the Panzer IV and the Tiger and Panther models, which were then in the course of construction. The increased weight strongly burdened the motors of these panzers, but by June 1942 Hitler was demanding a 1000-ton tank.

* Named after its inventor, Ferdinand Porsche.
** Metric tons. One metric ton equals 1.102 avoirdupois short tons. - Ed.

The General Staff believed that the former light types could be entirely dispensed with in view of the impending re-armament with Tigers and Panthers, whose production deadlines, as indicated to Hitler by the industry and the Ministry of Armaments, were fully relied on. In winter 1942-1943 it was therefore proposed to stop manufacturing Panzers II, III, and IV, even though the production programs of 1942 were already behind schedule under the increasing pressure of the war situation in the East. Then the heavy house to house fighting at Stalingrad led Hitler to demand that heavy infantry guns and howitzers, and even the 210-mm howitzer should be mounted in the panzers.

How modest, however, was the actual panzer capacity of German industry in spite of the pressure exercised by Hitler: a monthly production of a hundred Panzers IV was reached in October 1942 for the first time, and in November an additional hundred assault guns were added. In spite of every effort, the number of tanks at the front continued to decrease, and by October 1942 ten panzer divisions had one panzer battalion each, five had two, and eight had three. The 5th Light Division in Africa had one battalion (compare figures of May 1941, page 12).

At the beginning of December 1942, on the basis of a report by Professor Porsche and Dr. Mueller (Krupp), Hitler expected that an experimental model of the "Maeuschen" Tank*, weighing more than 150 tons, would be finished by summer 1943 and could then be produced at the rate of five per month. Up to that time no member of the Panzer Command had had anything to do with the blueprints or the question of

* Little mouse. - Ed.

its efficiency in the field. The model was developed in the office by non-military men, and it finally reached a weight of almost two hundred tons*.

In consequence of constant changes and an increased number of types, the supply of spare parts became difficult even at this time. Nevertheless, January 1943 brought new changes: front glacis plating for the Panzer IV, reinforcement of the front hull plating of the Panthers, demands for a slanting front, 150-mm front and 80-mm side armoring for the Tigers, increase to ten tanks per month in the production of the "Maeuschen" whose experimental model had not even been produced, mounting a 129-mm gun on this monster, and finally the scheme to mount the long 150-mm gun on it. His industrial advisers even talked Hitler into the medieval idea of buying three ramming Tigers.

In February 1943 the construction of heavy field howitzers (Hummel) and 88-mm guns (Hornissen) on the chassis of Panzer IVs was ordered. As a protection against the irritating Russian antitank rifles, the so-called aprons were introduced for the sides of the Panzers IV and V. These were armored sheets that were hung sideways over the armor and the running gear, and they considerably limited the penetrating force of the Russian antitank fire, but the slanted nose was given up for the sake of equilibrium.

Numerous other changes not mentioned above, and the fact that his expectations with regard to the hollow charge shell did not materialize,

* The author's consideration here is probably that the Panzer Command would have objected to this development because of the difficulty of moving this monster across bridges - Ed.

finally brought about such confusion that even Hitler himself thought a stricter management of the Panzer Command was advisable. He therefore called the author, who had been living at Berlin without command since 25 December 1941, to his headquarters at Vinnitza at the end of February 1943, where he ordered him to make plans for re-establishing the tactical efficiency of the Panzer Command in order to avert the impending collapse in the East and to ward off the invasion of the Western Powers expected in France in 1944.

IV. THE INSPECTOR GENERAL OF PANZER TROOPS

1. Origin and Organization. In view of the well-known unimportance of the Chiefs of Arms and Services, who only had a limited sphere of action within the Field Army because of their assignment to the Chief of the Army General Staff, and who also could not exert any influence on the Replacement Army and the schools of their arms in the Zone of the Interior, it was clear that the re-organization of the Panzer Command required a stronger base than that offered by the existing organization. This was all the more important in the case of the Panzer Command because the Army Chief of Staff, many of his officers, and the Commander of the Replacement Army had no clear conception from their own experience of the development of modern panzer forces. Thus any attempt to perform useful work with the existing organization was doomed to failure.

The author therefore proposed to establish the post of Inspector General of Panzer Troops subordinate to the Fuehrer, and to give him a free hand for the development of the Panzers, including the panzer units of the Waffen-SS amd the Luftwaffe. The report was approved and included in the service regulations, and has been added to this work as an appendix (Appendix 1). Disadvantageous results from this organization are unknown to the author.

On 1 March 1943 the Inspector General entered upon his duties. He created a small staff with a war-experienced panzer regimental commander as its Chief of Staff. The organization of the staff was normal.

Training and organization were each controlled by a general staff officer, and each branch of the Panzer Command was represented by war-experienced officers, most of whom were not fit for active duty because of serious injuries. These branches included panzer regiments and battalions, antitank units, armored infantry, armored reconnaissance, motorized artillery, panzer signal communication troops, panzer engineers, medical service, and technical and motor transport services. The duty of these specialists was the development of their branch and the issue of regulations written by special commissions composed of officers with fresh experience at the front. These commissions worked under the supervision of the agency for regulations at the Panzer Command School. Compilation of personal data was of particular importance in order to assign the right man to the right position in view of the complexity of the service.

The Inspector General considered it his mission to obtain personal insight into the character of his superiors and co-workers and to make immediate proposals based on his own experience with the troops as circumstances required. Therefore his staff was billeted in the vicinity of the Fuehrer's Headquarters and that of the Chief of the General Staff in order that they might remain in constant touch with the command of the Wehrmacht and the Army. A special Inspector of Panzer Troops was created for the Replacement Army, who was authorized to issue instructions to the Panzer Troops Branch of the General Army Office, and who supervised the replacement units by authority of the Inspector General. A Commandant of Schools took care of these important establishments

for the training of officer and noncommissioned officer replacements. Reports to the Fuehrer were made by the Inspector General as they became necessary.

2. Initial Measures. In early March 1943 the Inspector General made his first report to the Fuehrer, which lasted four hours and embraced all branches of the new service. The panzer construction program was increased with the approval of Minister Speer, and by 1944 production was to be increased to two thousand panzers monthly. The Panthers and Tigers were made standard types, but it was decided to continue the production of the Panzer IV until the Panther had been made absolutely foolproof for use at the front. The capacity formerly reserved for Panzer IIIs was utilized for the production of assault guns.

Suggestions were made for the improvement of antitank weapons, but the Inspector General was uniformly opposed on this important subject. His proposal to arm the antitank battalions of all divisions with assault guns instead of the long 75-mm gun drawn by a prime mover, and to assign the former assault artillery to him for this purpose, was opposed by all present at the conference except Speer. Hitler capitulated in the face of this opposition until December 1943, when the urgency of the measure was indisputable in view of the helplessness of the infantry divisions against the Russian tanks - nine precious months were lost in the meantime.

The first visits of the Inspector General to the factories in April 1943 led to a demand for increased air raid protection of the

most important plants, and for alternate production sites for these plants. The arming of the armored infantry personnel carriers with 20-mm guns and the 75-mm L 24 guns was ordered as a result of visits to the troops in the same month. The use of the Tiger chassis as a self-propelled mount was abandoned in favor of the output of Tiger panzers.

3. Panzer Operations.

a. Kursk

In May 1943 the Inspector General intervened in operational planning in the interest of his arm and the general conduct of the war. The Chief of the General Staff had proposed to the Fuehrer to attack and cut off the Russian salient jutting far to the West into the German front around Kursk. This would be accomplished by an enveloping attack of Army Groups South and Central. He set great hopes on weakening the enemy, and expected to regain the lost initiative on the Eastern Front. However, reconnaissance showed that the proposed direction of attack was blocked by strong defenses, the construction of which indicated that the enemy foresaw the German intention and had prepared for it. The attack, therefore, would lack the element of surprise, and according to experience in the Eastern Theater, was bound to lead to heavy losses, especially of panzers.

The rehabilitation of the panzer forces at the Eastern Front which had been weakened by the fighting of the previous year, especially at Stalingrad, was by no means completed. The introduction of the new panzer types had been repeatedly delayed because of technical deficiencies, and if the Eastern Front were to regain its striking power, it

would be necessary to wait for the reorganization of these panzer forces. The fact that a renewed decrease of panzer strength in the East, whether with or without a sweeping success at Kursk, would affect the establishment of a defensive front against an invasion in the West was also decisive.

In agreement with Minister of Armaments Speer, who could not promise an increase in the production of panzers beyond the amount planned, the Inspector General protested against the proposals of the Chief of the General Staff and warned against this attack at a meeting at Munich on 4 May 1943. This protest was voiced in the presence of the Commander-in-Chief South and Central, and the Chiefs of the General Staff and of the Wehrmacht High Command. Furthermore, in a conversation on 10 May in a small group which was discussing difficulties which had not yet been ironed out in the production of Panthers, he warned Hitler emphatically against offensives not promising a decisive victory but which would change the entire war situation. Hitler showed absolute appreciation of this advice, but in June he yielded to the influence of the Chief of the General Staff and ordered the attack on Kursk under the code name "Zitadelle".

The bitter failure of the battle at Kursk, costing strong panzer losses, damaged the German Army to an irreparable degree, and the loss of the war dates from this defeat even more than from that at Stalingrad. The Russians had comparatively small losses and struck back after the German attack, leading to renewed break-throughs, and retreats on the part of the Germans. In November, Kiev and the middle line at the

Dnieper were lost.

b. Kiev.

Hitler tried to regain the initiative by recapturing Kiev. The attempt was to be made with totally inadequate means, including only three panzer divisions, and of these the 25th was entirely inexperienced in eastern combat. This was a new unit, trained only a short time, and its vehicles had been taken away in favor of other divisions, being replaced by French equipment which experience had shown did not meet the requirements of winter campaigns. The Inspector General, therefore, protested in concert with the Chief of General Staff against the isolated commitment of this division, and proposed to Hitler in a short memorandum on 9 November 1943 to concentrate all panzer divisions in the southern area of the Eastern Theater in order to give the intended operations at least a chance.

There were two panzer divisions from the Dnieper bridgehead at Kherson, one from the same place at Nikopol, and one from the area of Army Group South, which together with the three above-mentioned made seven panzer divisions. With these forces, simultaneously committed, the Russian advance could perhaps be stopped. However, Hitler yielded to the protests of the Commander of the Dnieper bridgeheads, who believed they would not be able to fulfill their purely defensive missions without the aid of the panzer divisions. So he ordered the attack with three panzer divisions only, of which the 25th, apart of its above-mentioned shortcomings, was brought to the front and committed on piecemeal basis. The result was the defeat at Fastov-Berditescher

at the end of November 1943.

The unfortunate and ruinous combat of 1943 had defeated all schemes to increase the fighting power of the panzer divisions. Only the quality of the individual tanks could be improved, but the total number of panzers dwindled steadily. By September 1943 there were fourteen divisions with one panzer battalion each, eight with two panzer battalions, and two with three battalions. In addition, there were ten Panzergrenadier divisions, each with one panzer battalion armed with assault guns. The authorized strength per company, though stipulated to be twenty-two tanks, was actually only seventeen (compare the figures of October 1942, page 15).

c. Defense against the Invasion in the West.

In November 1943 the panzer divisions at the Eastern Front were in almost the same distressing state as in February following the catastrophe of Stalingrad. In addition there was mounting concern regarding the defense against the invasion of the Western Powers in France, which was expected in May 1944. In each of his reports the Inspector General invited the attention of the Fuehrer and the Chief of the General Staff to the necessity of withdrawing a sufficient number of panzer divisions from the Eastern Front in time for the defense against the invasion, and to rehabilitate both personnel and material. This process would take at least six months considering the rate of production of new equipment, but not until severe opposition and differences of opinion had been surmounted were twelve panzer and motorized divisions partially prepared for commitment at the time of the invasion. This

was a very small number in view of the fact that the enemy in the West absolutely controlled the air and the sea, and also in view of the inferiority of the bulk of the German infantry divisions at the disposal of the Commander-in-Chief West.

The panzer and motorized divisions were the only mobile forces with which an operational defense could be carried out in case the invasion was a success. Their commitment was therefore all the more important, but the Inspector General had learned through inspections of the western panzer divisions in January and February 1944 that the opinion of the Commander-in-Chief West did not coincide with that of Field Marshal Rommel, the Commander-in-Chief of the most important army group on the Western Front.

The Commander-in-Chief West, Field Marshal von Rundstedt, placed great importance on sufficient operational reserves of mobile forces. For this purpose he wanted to keep the bulk of the panzer and motorized divisions at a distance behind the front in order to commit them against a successful landing in a unified manner and under a competent commander of the Panzer Group West. Field Marshal Rommel, on the other hand, on the basis of his experience in Africa, felt that march movements of large panzer units were impossible in the face of enemy air superiority. Convinced that a landing could only be effected in the area between Dunkirk and the mouth of the Somme, where the enemy would find the most favorable conditions and the shortest communication lines, he adapted his whole defensive strategy to this one possibility and advanced the panzer divisions at his disposal to the immediate

vicinity of the coast, thus renouncing the use of operational mobile reserves. In this way he practically made them immobile and withheld them from the influence of the Commander-in-Chief West.

On his return from France the Inspector General reported on the situation to the Fuehrer in March. He backed the Commander-in-Chief West and propsed to Hitler that the disposal of the panzer divisions be left in his hands and that Field Marshal Rommel be advised accordingly. Hitler believed that he should not oppose the judgment of Field Marshal Rommel, as the latter was on the spot, but he instructed the Inspector General to reopen the question with Rommel when again inspecting the panzer divisions in the West. This was done in April 1944 in the latter's headquarters at La Roche Guyon, but the discussion was without result, and in May Hitler decided definitely in favor of Rommel, whose rigid defensive tactics corresponded to his own views better than the mobile strategy of Rundstedt and the Inspector General.

As some of the remaining panzer divisions behind the front had been declared reserves of the Wehrmacht High Command, and thereby also withheld from the command of the Commander-in-Chief West, he had practically nothing with which to combat an invasion at any other point of the coastline except where Rommel expected it (as to particulars, see the elaboration on the Western Campaign by General Zimmerman *). So fate took its course.

4. Technical Improvements and Innovations. In the course of the year 1943 the Inspector General, in cooperation with Minister of

* Part of a manuscript entitled "OB West, a Study in Command" - Ed.

Armaments Speer, worked constantly on the improvement and simplification of panzer armament. Two problems were paramount, the construction of suitable antiaircraft panzers and of suitable tank destroyers.

a. Antiaircraft panzers. In view of the increasing air superiority of our western opponents which had already decided the campaign in Africa against us, we had to be prepared for the worst in case of an invasion in the West. In spite of this, panzers were constructed without any air protection. The Inspector General therefore decided to push the construction of special antiaircraft tanks. The four-barreled 20-mm and the two-barreled 30-mm and 37-mm antiaircraft guns were effective weapons against tactical support airplanes. Mounting them on Panzer 38 T, IV, and Panther chassis was tried out, but the first test vehicles did not meet Hitler's approval on account of their high silhoutte, and were not accepted. Satisfactory patterns could not be produced until January 1944 and their speedy introduction at the Western Front was carried out in April, but it was already too late.

b. Tank Destroyers. The firm of Vomag produced a low silhouette tank destroyer vehicle based on the Panzer IV, and its construction having proved satisfactory, the first production samples were ready in May 1943. In October tank destroyer models built on a Panther chassis with an 88-mm gun, and on a Tiger chassis with a 128-mm gun were presented to the Fuehrer. In December the full production quota of the Panzer 38 T was released for the construction of a light tank destroyer with a 75-mm gun, with which the tank destroyer battalions of the infantry divisions were to be armed in order to alleviate the helplessness of the Infantry in the face of enemy tanks. The

tank destroyer 38 T was equipped with a number of valuable technical innovations, including slanting sides, a non-recoiling gun, and a submachine gun with bent barrel for roundabout fire in close combat. Despite its small size it had space for a crew of four, and good optics facilitated its fire control.

c. Panzer and Antitank Guns. It became necessary to arm the assault artillery with a more suitable gun for fighting tanks and to equip it with a machine gun with roundabout fire. An armored howitzer with a 38-mm projector (Navy) mounted on a Tiger chassis was created for combat in towns and against fortifications. The production of the efficient 88-mm antitank gun was increased, and tank recovery vehicles were mounted on the chassis of the Panther.

d. New Arrangement of Panzer Constructions. In June 1944 the construction of panzers was standardized to include: the 38-ton vehicle group which were primarily tank destroyer and reconnaissance vehicles; the 26-ton vehicle group on standard chassis, including Panzers III and IV as tank destroyers, assault guns, and antiaircraft tanks; and the Panther and Tiger group for combat tanks, heavy tank destroyers, antiaircraft tanks, and tank recovery vehicles. In the last group the motors, gears, running gears, and final drive reduction gears were standardized. The production of panzers as chassis for medium and heavy guns was stopped with the exception of Tigers for the 170-mm guns. In the meantime the high expectations of increased panzer production had been repeately shattered by the air attacks which started

in October 1943 and increased constantly. This induced Minister Speer to propose in October 1944 to split up the 26-ton group between the 38-ton and the Panther groups in order to simplify production, but the project was not carried out. In January 1945 the monthly production, while estimated to reach a thousand pieces, actually attained its top level of 434 38-ton and 180 Vomag tank destroyers. Then came the collapse.

e. Development of Panzergrenadiers. Originally the German panzer division consisted of two panzer regiments of two battalions each, one infantry brigade having one regiment of two battalions, and a motorcycle battalion. The infantry regiments were to be equipped entirely with armored personnel carriers, but up to 1940 only one regiment of the 1st Panzer Division was equipped according to this plan. For the Eastern Campaign in 1941, each of the panzer divisions had two infantry regiments, two battalions, and one motorcycle battalion, while the panzers were reduced to one regiment of two to three battalions. The number of armored personnel carriers in these infantry units remained insignificant, and when the motorcycle riflemen proved of little value during the muddy periods in spring and autumn and in the Russian winter, they were merged with the reconnaissance battalions in 1942.

As previously mentioned, the Inspector General had reconsidered the original idea of equipping the infantry regiments, now called Panzergrenadiers, with armored personnel carriers and with Hitler's concurrence had started to arm these vehicles with 20-mm and 75-mm

guns. It was expected that each Panzergrenadier company equipped with armored personnel carriers would have nine 20-mm and two 75-mm guns, while each battalion would have a heavy company mounting six 75-mm guns.

The production of armored personnel carriers was increased in order to be able to provide at least one Panzergrenadier battalion for each panzer division. The troops were taught that in modern warfare the so-called striking power is not represented by bayonets but by fire power, and that increased fire reduces losses. The number of machine weapons of all kinds was increased, as were the medium mortars and rocket projectors. Close cooperation with panzers remained the most important factor in training the Panzergrenadiers.

f. Development of Panzer Reconnaissance Battalions. During the mobile warfare of 1939-1941, the panzer reconnaissance battalion, having full fighting power, had completely solved the problems of reconnaissance, flank protection, and combat in large areas. But their utilization was restricted after the winter of 1941 in consequence of difficulty in replacing their vehicles. When large sectors of the Eastern Front changed into position warfare, it was repeatedly said that reconnaissance battalions were superfluous, and their rehabilitation and development was neglected. The construction and development of armored reconnaissance cars had nearly ceased by winter 1942-1943.

The neglect of this important force was severely felt during the retreat-fighting in the East in 1943, and when reflecting on the probable fighting methods at the Western Invasion Front, the Inspector

General was alarmed by the question of how the increasingly immobile Army would be able to reconnoiter and operate in this wide security area. The possibility of successful break-throughs and subsequent pursuit operations, plus the hopeless inferiority of the Luftwaffe, added further complications. Therefore he paid special attention to the rehabilitation of the armored reconnaissance units and furthered the development and construction of suitable trackless tanks and light armored personnel carriers for reconnaissance purposes.

g. Development of Motorized Artillery. The development of motorized artillery was really the mission of the Artillery Command, but after the creation of the panzer divisions the top level representation of the Panzer Command became deeply interested in the development of artillery to follow up a panzer attack, which normally opened up very quickly. This trend of thought led to a demand for self-propelled mounts as early as 1934, but the artillerymen did not believe in such fast combat. Accustomed for five hundred years to draw their guns with the muzzle pointing backwards and to unlimber for action, they successfully opposed this proposal until the bitter experience of war taught them to follow the suggestions of the Inspector General and to modernized at least one battalion of each panzer division by the end of the war.

The increase in the number of guns from four to six for each battery was also due to a suggestion of the Inspector General. This was prompted by a desire to facilitate the splitting up of batteries in mobile warfare, and to make allowance for the unavoidably high amount of maintenance on the self-propelled mounts. The requests of

the panzer artillery for assignment of armored reconnaissance vehicles could unfortunately not be met to the desired extent because of production, and the panzer regiments often had to aid in coordinating the panzers and the Artillery. The creation of panzer observation batteries was energetically supported by the Inspector General.

From the standpoint of the panzer expert, the whole German Artillery suffered during the war from the fact that it did not possess a single gun for efficiently combating tanks, and that it even armed the assault gun units with the short 75-mm gun, which was unsuitable for antitank purposes, solely to aid the Infantry against enemy machine guns. The very late rearmament of the assault guns with the long 75-mm gun and the incorporation on Hitler's orders of the long 88-mm antitank gun into the Artillery near the end of the war were the start of a remedy for this situation.

h. Panzer Engineers and Panzer Signal Communications. The top-level command of the Panzer Troops followed the development of the panzer engineers and the panzer signal communication units with equal interest. These two technical services were accustomed to frequent innovations, and were not under the pressure of an old tradition like the older weapons, and thus assumed the new missions arising from the creation of the panzer divisions with great readiness. The panzer engineers were faced with creating new bridge building material for the heavy weights which had to be handled because of the progressive motorization of the Army and the formation of the Panzer Command. In addition they had to cooperate with the panzers in clearing routes through obstacles such

as ditches, barriers, steep inclines, forests, marshes, and especially mine fields. And on the other hand, the defense demanded that they erect and camouflage all tank obstacles which they had to eliminate in an attack. Equipment of the panzer engineers with armored vehicles for reconnaissance purposes, and special purpose vehicles such as bridge layers had been planned but could not be completely carried out because of production difficulties.

The panzer signal communication troops were faced with the completely new mission of providing combat radio control of panzers from the scope of an individual vehicle to divisional sized units. In addition, connections had to be provided between the large units of the Panzer Command (divisions, corps, armies and groups) and with superior Army agencies and the cooperating units of the Luftwaffe. The requirements of the Panzer Command were extensive from the very beginning, but the signal troops fully met these demands by the start of the war and were able to continue to satisfy all further requirements occasioned by new development as the war continued.

Increased equipment of communication troops with armored vehicles was as necessary as it was for the Artillery and the Engineers, but could only be done incompletely because of production setbacks. However, the equipment from the successful mobile warfare in 1939-41 enabled the leaders of the Panzer Command to visit units in the front line at the points of main effort and to lead them on the basis of their own impressions. Tactical insight, determination and matters of the technique of giving commands via radio were in a high degree necessary

and at decisive moments control from an airplane was possible for short periods.

5. Development of Panzer and Panzergrenadier Divisions. In the First World War the power of the panzer had not been sufficiently utilized, since Infantry and Artillery units were not accustomed to cooperation with the new weapon. Developments after the war made the tanks faster and more adaptable to the terrain, and the means of control and communication had been considerably improved.

The German panzer division was therefore created on the philosophy that the fast mobile fighting power of the panzers should be utilized and supported during a successful attack by other weapons which would be equally fast and accustomed to cooperation as a result of continuous training. According to the views of the organizers of the panzers, the main duty was assigned to the panzer regiments within the divisions, while the other arms were regarded as assistants to this main weapon. Therefore, the first German panzer division included one panzer brigade with the two regiments of two battalions each, and each battalion had four companies with thirty-two Panzers I or II, so the division numbered more than 500 panzers.

With the introduction of the Panzer III and IV, the strength of the companies was reduced to twenty-two panzers, because each had a crew of five as compared with two to three for the earlier types. In addition it was decided to send only three companies from each battalion to the front, while the fourth formed the cadre for the Replacement Training Battalion remaining in the zone of the interior. The

panzer division of the year 1939 was therefore supposed to go to the front with about 300 panzers, but this authorized strength was never quite reached. The division also had three infantry battalions and six artillery batteries at the time, and in 1940 a heavy artillery battalion of three batteries was added.

The doubling of the panzer divisions ordered by Hitler in 1941 led, as mentioned above, to halving the number of tanks per division because of their inadequate capacity of the tank industry. At the same time the number of infantry battalions within the division was increased, so that the panzer division of 1941 had six to nine panzer companies totaling 150-210 tanks, five infantry battalions and nine batteries.

The heavy losses of the Russian campaign brought a further decrease in the number of panzers in spite of the increased capacity of the industry, and the authorized panzer strength of each division steadily decreased from about 190 in 1943 to about 162 plus 23 tank destroyers in 1944, and about 54 plus 23 tank destroyers in 1945. However, it must be stressed that the quality of the panzers had improved and that in 1944 the panzer reconnaissance battalions, the Panzergrenadiers, and the other organic elements were authorized 286 armored personnel carriers and thirty-five armored reconnaissance vehicles. In 1945 this total was reduced to ninety armored personnel carriers and sixteen panzer reconnaissance vehicles. The panzer divisions were fully motorized until 1944, but during the last months of war part of the Panzergrenadiers had to be put on bicycles or march on foot. The swiftness of the tactical movement of the panzer divisions suffered considerably from this measure

and from the permanent lack of fuel.

From the above figures it may be seen that in spite of all efforts to maintain the strength of the formations, Hitler's demand to double the number of panzer divisions in 1941, the heavy losses of panzers, and the bomb damage to the tank industry forced an abandonment of the organization which had been acknowledged to be the most effective one. A comparison of the strength of the panzer divisions of 1944 and 1945 is illustrated in chart 1. It can be seen that the number of motor vehicles, especially trucks, compared far more favorably with the number of armored vehicles in 1944 than it did in 1945, yet the number of auxiliaries compared to fighters was 1 to 6, without counting the supply units of the division. This was a favorable comparison.

The emergency units of the years 1944-45 are no prototype for future panzer forces. On the contrary, it will be necessary to increase the number of armored vehicles to the greatest number that can be commanded in light of the abilities of the officers of each unit from the platoon upwards. The number of other weapons will have to be adapted to the number of panzers in such a way that one infantry and one artillery battalion may be provided for each panzer battalion. A reconnaissance battalion, antitank battalion, engineer battalion, signal battalion and antiaircraft battalion should form the divisional troops. The more auxiliary troops that can be put under armor protection (armored personnel carriers), the better. The total strength of a panzer division should not exceed fourteen thousand in order to prevent it from becoming unwieldy.

	Panzer Divisions 1944	Panzer Divisions 1945
Strength	13,213	11 402
Authorized strength of armored vehicles *	1 190	995
Authorized strength of Panzers	162	54 (incl. antiaircraft and recovered panzers)
Authorized strength of armored personnel carriers	286	90
Authorized strength of Tank destroyers	23	23
Authorized strength of wheeled reconnaissance vehicles	35	16
Authorized strength of Trucks	1 200	1 100

* Armored vehicles, motorcycles, half track motorcycles.

The Panzergrenadier division, formerly the motorized infantry division, originated from a desire to utilize existing motor vehicles for increasing the mobility of the infantry divisions, since the capacity of the tank industry did not permit an increase in the number of panzer divisions. The customary organization of the Infantry was not changed on the creation of these divisions. However, the Polish campaign proved this division was unwieldy, and the number of infantry battalions was reduced to six while the strength of the other elements remained the same.

In the course of the Russian campaign it became necessary to increase the striking power of the Panzergrenadier division by adding a panzer battalion, but the intention of slowly transforming the Panzergrenadier divisions into panzer divisions could not be accomplished for want of panzer equipment. In future armies this force will not be required and will be replaced by a larger number of panzer divisions. Nevertheless large powers with financial and material backing will probably activate only fully motorized infantry divisions unless the peculiarities of employment call for different measures, such as in the case of mountain divisions.

6. Cooperation with the Luftwaffe. From the creation of these two new weapons, cooperation with the Luftwaffe was of great importance to the Panzer Command, but these overtures were not fully seconded by the Luftwaffe. During the campaign in the west in 1940, especially at the crossing of the Meuse and during the breakthrough at the extension of the Maginot line at Sedan, the panzers were strongly supported by

the Luftwaffe. In the Russian Campaign the Luftwaffe was able to gain air supremacy in the advanced area of the Panzer Forces during the mobile warfare in 1941, and it effectively supported numerous attacks of the ground forces. Reconnaissance airplane squadrons were available to the panzers, and close combat air groups were at the disposal of the panzer groups (later panzer armies) for commitment in battle. The fighter wings advanced their bases in rapid succession close to the front lines of the panzers and cooperated with them closely. But parallel to the decrease in the superiority of the Luftwaffe after 1942, this support slowly dwindled and its absence was felt severely during the time of the enemy's air superiority. The Panzer Command alone was not able to compensate for the loss of the Luftwaffe.

7. Schools and Regulations. Initially the Panzer Command had a school at Wuensdorf near Zossen which trained panzer officers and noncommissioned officers and those of other branches in panzer tactics and engineering. Training took place on the troop training grounds at Zossen, but as these grounds were too small for advanced combat practice firing with long-range guns, and since they did not conform to security regulations, the gunnery school was transferred to Putlos in Holstein on the coast of the Baltic. During the course of the war the Panzer School moved to the large troop training grounds at Bergen (Panzer School I) and the School for Panzer Reconnaissance and Panzergrenadiers, which was temporarily attached to the Cavalry, was transferred to Panzer School II at Krampnitz near Potsdam, and utilized the training grounds at Doeberitz.

The regulations section was attached to the school. At the time of the formation of the Panzer Command there were no existing regulations for the arm and these had to be written. Until the creation of the post of Inspector General, all regulations were subject to the approval of the Training Section of the General Staff, which did not include a panzer officer. This department proved to be an obstacle for the timely issue of regulations for the uniform training of this young weapon, and by the start of the war the greater part of the necessary regulations had not been issued and the troops had been trained on the basis of memoranda and temporary copies.

One of the most important requests of the Inspector General on the formation of his new office in 1943 was that for authority to issue regulations for his branch. Only where regulations were related to the sphere of other arms were they subject to examination by the General Staff. Regulations were then issued in quick succession, and were adapted to modern techniques and the latest experience of the war, and were written in a modern, easily comprehensiv e, and richly illustrated style. In addition the regulations section edited the panzer periodical "The Panzer Command", which was a useful military and historical work.

The attention of the Inspector General was primarily directed toward adapting the backward fire training to current conditions of panzer combat. Night firing was especially stressed since night combat constantly gained in importance because of the enemy's air supremacy. However, there was not time to put the measures taken in this connection into effect.

V. CONCLUSION

The young German Panzer Command entered the war in 1939 in an incomplete state. It was deficient in armament and equipment, and was molded from the most heterogeneous elements, yet it was conscious of its importance even before the battle began and entered the fight proud of the quality of its panzers and confident of the competence of its command, its combat principles, and the determination of its leaders.

The greatest victories of the gigantic struggle are connected with its name, and it remained brave and true up to the darkness of defeat. Until the end of the war it possessed the best panzers and leaders, and was composed of men of outstanding quality. Its shield is unstained. It was respected by friend and foe. Honor to its brave dead.

/s/ Heinz Guderian

SERVICE REGULATIONS FOR THE INSPECTOR GENERAL OF PANZER TROOPS

1. The Inspector General is responsible to me for developing the Panzer Command* in a manner in keeping with the decisive importance of this branch in war. The Inspector General is immediately subordinate to me, has the status of a Commander-in-Chief of an Army, and is the Senior Officer of the Panzer Command.

2. The Inspector General is responsible for the organization and training of Panzer Troops and the large mobile forces of the Army in cooperation with the Chief of the Army General Staff. In addition I delegate to him the authority to give instructions to the Luftwaffe and the Waffen-SS in matters concerning the organization and training of Panzer Troops, but I reserve basic decisions to myself. In close cooperation with the Reich Minister for Armaments and Ammunition, he will report all requests for the technical development of weapons as well as all manufacturing plans for my final decision.

3. In his capacity as Chief Officer of the Panzer Forces attached to the Army High Command, he is also Commander of the Replacement Training Troops of his branch. It is his mission to regularly secure efficient replacements of personnel and panzer vehicles, regardless of whether single vehicles, rehabilitated forces, or new formations are concerned. It is his duty to distribute the panzers and armored vehicles

* The designation "Panzer Command" and "Panzer Troops" in these service regulations comprises: panzer troops, panzergrenadiers, motorized infantry, panzer reconnaissance troops, tank destroyer troops, and heavy assault gun units.

to the Field and Replacement Armies according to my instructions.

4. The Inspector General will insure the systematic and timely constitution of new formations and the rehabilitation of panzer troops and mobile forces. In agreement with the Army General Staff, he will employ crews of the Field Forces who lack panzer equipment for this purpose.

5. The Inspector General will evaluate war experiences for tactics, armament, training, and the organization of the Panzer Troops. In this connection he is authorized to visit and inspect all elements of the Panzer Command within the Wehrmacht and the Waffen-SS in the field. The Panzer Troops of the Field Forces will report all experiences directly to the Inspector General. He will bring observations and experience to the knowledge of all interested agencies including the Reich Minister for Armaments and Ammunition. The Inspector General will supervise and direct all regulations for the Panzer Command, and in this connection will obtain the agreement of the Chief of the General Staff before issuing any regulations pertaining to the conduct of forces and cooperation with other arms.

6. The following will be permanently assigned to the Inspector General as Senior Officer of Panzer Troops:

a. The replacement training units of the mobile troops (with the exception of cavalry and bicycle replacement training forces), which will be joined under special command agencies.

b. The schools for mobile troops (except cavalry and bicycle training institutions) of the Field and Replacement Armies, and the

instruction units belonging to them.

7. The Inspector General is authorized to issue binding instructions to all agencies of the Army within his sphere of control. All agencies are instructed to place all records needed by the Inspector General at his disposal.

Fuehrer Headquarters, 28 February 1943.

The Fuehrer

/s/ Adolf Hitler